JOURNAL OF ORGANOMETALLIC CHEMISTRY VOLUME 449, NUMBERS 1–2, MAY 4, 1993

Contents

Introduction (A.H. Cowley) vii

Regular Papers

Structural studies of some Group 12 metal alkyl adducts: the X-ray crystal structures of $Me_2Zn[Me_2N(CH_2)_2NMe_2]$, $Me_2Cd[Me_2N(CH_2)_2NMe_2]$, $(Me_3CCH_2)_2Zn[Me_2N(CH_2)_2NMe_2]$ and $(Me_3CCH_2)_2Cd[Me_2N(CH_2)_2NMe_2]$
P. O'Brien, M.B. Hursthouse, M. Motevalli, J.R. Walsh (London, UK) and A.C. Jones (Wirral, UK) (Rec'd May 19, 1992) 1

Low-temperature organometallic synthesis of crystalline and glassy ternary semiconductors $M^{II}M^{IV}P_2$ where M^{II} = Zn and Cd, and M^{IV} = Ge and Sn
S.C. Goel, W.E. Buhro, N.L. Adolphi and M.S. Conradi (St. Louis, MO, USA) (Rec'd August 3, 1992) 9

Formation of a high surface area, regular porous solid from the cluster of clusters, $Zn_4^{II}O[(CO)_9Co_3CCO_2]_6$
W. Cen, B. Ladna, T.P. Fehlner, A.E. Miller and D. Yue (Notre Dame, IN, USA) (Rec'd June 18, 1992) 19

Synthesis and second-order nonlinear optical properties of three coordinate organoboranes with diphenylphosphino and ferrocenyl groups as electron donors: crystal and molecular structures of (*E*)-D–CH=CH–B(mes)$_2$ and D–C≡C–B(mes)$_2$ [D = P(C$_6$H$_5$)$_2$, (η-C$_5$H$_5$)Fe(η-C$_5$H$_4$); mes = 2,4,6-(CH$_3$)$_3$C$_6$H$_2$]
Z. Yuan, N.J. Taylor, Y. Sun, T.B. Marder (Waterloo, Canada), I.D. Williams (University Park, PA, USA) and L.-T. Cheng (Wilmington, DE, USA) (Rec'd July 28, 1992) 27

The systems $LiAlH_4/NH_4X$ and N_2H_5Cl as precursor sources for AlN
J.F. Janik and R.T. Paine (Albuquerque, NM, USA) (Rec'd August 3, 1992) 39

Tertiary phosphine adducts of alane and gallane
F.M. Elms, M.G. Gardiner, G.A. Koutsantonis, C.L. Raston (Brisbane, Qld., Australia), J.L. Atwood and K.D. Robinson (Tuscaloosa, AL, USA) (Rec'd August 3, 1992) 45

Synthesis, characterization, and reactivity of new alkylgallium acetylides
K.E. Lee and K.T. Higa (China Lake, CA, USA) (Rec'd August 3, 1992) 53

Synthesis and characterization of bridged dimeric and trimeric Group 13/15 complexes containing primary phosphido [(^{t}Bu)PH]$^-$ and arsenido [(^{t}Bu)AsH]$^-$ units
D.A. Atwood, A.H. Cowley, P.R. Harris, R.A. Jones, S.U. Koschmieder and C.M. Nunn (Austin, TX, USA) (Rec'd August 25, 1992) . 61

Gallium and indium compounds containing three different substituents. Crystal and molecular structure of $[(Me_3CCH_2)ClGaPPh_2]_3$
O.T. Beachley, Jr., J.D. Maloney (Buffalo, NY, USA) and R.D. Rogers (DeKalb, IL, USA) (Rec'd July 13, 1992) 69

Raman spectroscopic studies of gas phase Me_3In, Et_3In and $EtMe_2In$
Z.S. Huang, C. Park and T.J. Anderson (Gainesville, FL, USA) (Rec'd August 3, 1992) 77

Synthesis, isolation, and characterization of dimeric compounds containing two different exocyclic ligands on the Group 13 center. X-Ray crystal structures of $[R(Me_3SiCH_2)InE(SiMe_3)_2]_2$ (R = Ph, E = As; R = Me, E = As, P; R = Cl, E = P)
R.L. Wells, A.T. McPhail, L.J. Jones III and M.F. Self (Durham, NC, USA) (Rec'd July 13, 1992) 85

Indium tert-butylthiolates as single source precursors for indium sulfide thin films: is molecular design enough?
A.N. MacInnes, M.B. Power (Cambridge, MA, USA), A.F. Hepp (Cleveland, OH, USA) and A.R. Barron (Cambridge, MA, USA) (Rec'd August 3, 1992) 95

Measurement of surface tension for polysilanes
T. Fujisaka, R. West (Madison, WI, USA) and C. Murray (St. Paul, MN, USA) (Rec'd July 28, 1992) 105

Pyrolysis of poly[(silylene)diacetylenes]: direct evidence between their morphology and thermal behavior
R. Corriu, Ph. Gerbier, C. Guérin, B. Henner and R. Fourcade (Montpellier, France) (Rec'd July 28, 1992) 111

Primary and secondary trimethylsilylmethylstibines. Synthesis, characterization and chemical vapor deposition properties
D.G. Hendershot and A.D. Berry (Washington, DC, USA) (Rec'd August 3, 1992) 119

Aspects of the chemistry of vinylarsenic compounds. The preparation of divinylarsinic acid, tetravinyldiarsine oxide, and tetravinyldiarsine, and the X-ray crystal structure of the helical divinylarsinic acid
V.L. Goedken, L.F. Brough and W.S. Rees, Jr. (Tallahassee, FL, USA) (Rec'd August 3, 1992) 125

Antimony sources for MOCVD. The use of Et_4Sb_2 as a p-type dopant for $Hg_{1-x}Cd_xTe$ and crystal structure of the adduct $[Et_4Sb_2 \cdot 2CdI_2]_n$
R.S. Dickson, K.D. Heazle, G.N. Pain, G.B. Deacon, B.O. West, G.D. Fallon, R.S. Rowe, P.W. Leech and M. Faith (Clayton, Vic., Australia) (Rec'd August 3, 1992) 131

Evidence for a free radical mechanism in the decomposition of bis(but-2-enyl)tellurium
J. Stevenson, W. Bell, J. Ferry, D.J. Cole-Hamilton (St. Andrews, UK) and J.E. Hails (Malvern, UK) (Rec'd July 24, 1992) 141

Synthesis and characterization of sterically encumbered Li, Na, and K aryl tellurolates, and some Pt(II), Ir(I), and Cd(II) derivatives
Ph.J. Bonasia and J. Arnold (Berkeley, CA, USA) (Rec'd August 3, 1992) 147

Study of CoGa deposition from the single source precursor $(CO)_4CoGaCl_2$ (THF)
F. Maury, L. Brandt and H.D. Kaesz (Los Angeles, CA, USA) (Rec'd June 18, 1992) 159

The use of phosphine chalcogenides in the preparation of cobalt chalcogenides
S.M. Stuczynski, Y.-U. Kwon and M.L. Steigerwald (Murray Hill, NJ, USA) (Rec'd July 28th, 1992) 167

Studies of the thermal and photochemical lability of olefin complexes of rhodium(I) to form Rh and Rh_2O_3
Z. Duan, M.J. Hampden-Smith and A.P. Sylwester (Albuquerque NM, USA) (Rec'd September 3, 1992) 173

Chemistry of copper(I) β-diketonate complexes. VI. Synthesis, characterization and chemical vapor deposition of 2,2-dimethyl-6,6,7,7,8,8,8-heptafluoro-3,5-octanedione (fod), copper(I)L complexes and the solid state structure of (fod)Cu(PMe_3)
K.M. Chi, T.S. Corbitt, M.J. Hampden-Smith, T.T. Kodas and E.N. Duesler (Albuquerque, NM, USA) (Rec'd October 1, 1992) 181

A comparison of heterometallic alkoxide molecules containing copper(I) or copper(II) and zirconium
B.A. Vaartstra, J.A. Samuels, E.H. Barash, J.D. Martin, W.E. Streib, C. Gasser and K.G. Caulton (Bloomington, IN, USA) (Rec'd August 28, 1992) 191

Crystal structure of $[CF_3CF{=}C(CF_3)Ag]_4$ and its use as a chemical vapor deposition precursor for silver films
P.M. Jeffries, S.R. Wilson and G.S. Girolami (Urbana, IL, USA) (Rec'd August 12th, 1992) 203

Monomeric to polymeric gold(I) complexes from bifunctional ligands $R_2PC{\equiv}CH$
G. Jia, R.J. Puddephatt and J.J. Vittal (London, Canada) (Rec'd July 21, 1992) 211

Preliminary Communication

An indium-phosphorus heterocubane as a new type of indium phosphide precursor
D.A. Atwood, A.H. Cowley, R.A. Jones and M.A. Mardones (Austin, TX, USA) (Rec'd August 25, 1992) C1

Author Index C3

Subject Index C5